

432 MHz AND ABOVE EME NEWS

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CONDITIONS

This is one of the shortest newsletters (NLs) I can remember. Activity was not high on any of the EME bands during the June SW. Low activity during the summer months is not unusual. But actual interest in EME is very high. There are more active stations and the chance of a random EME QSO on any night of the week is better than in the past. The real problem is concentration. Activity is spread among more bands than ever before, and with the ease and efficiency of making skeds via email, fewer are made via the skeds list. Skeds are now time and date-wise spread all over the place. This change may be good for scheduled operation, but it tends to reduce random activity. The Activity or Sked Weekend (SW) was created not just as a time for scheduled operation, it was also a way to concentrate activity so that more random contacts could be made. The SW has worked well for nearly 30 years. K1RQG notes that attendance of the 20 m nets is down for similar reasons. The overall number of random QSOs is down except during contests. But there are now more contests. Maybe this is the solution. Let's have a few more contests and forget about the SWs?

[AA5C](#)

[Greg](#) has bad news -- My 100 W Varian VTM-6191 TWTA bit the dust for unknown reasons. I am thus operating with my old 30 W 6196 TWT again. I can hear my own echoes (weakly), so the system is working reasonably well. I'm always looking for new 3 cm stations to work, but it will take more patience on both ends now. I plan to be on next for the July SW.

[AL7OB](#)

Mike worked quite a few new ones on 70 cm in June including SK0CC. Mike note Sven had troubles copying him. N5BLZ visited Mike's QTH and saw the dish and heard echoes. [Mike has quite a few visitors lately. Last month JA5OVU visited.]

[BY4BJA](#)

Ray, WA4NJP reports that this group is transmitting better than they can hear and that they still have away to go before they can be considered a real EME station. He forwards the following from BJ4BJA -- I have sent my failed preamp back for repair, but I believe it will take some time. When I get the preamp back, I will inform you. I think it's not easy to make an EME QSO without a preamp. A Japanese EMEer told me that if I had a good antenna system, it would be easy to make QSOs. I have been very busy, but I plan to get a better antenna up.

Blockage of the moon by big building is another problem. Buildings were in the same direction as the moon during my skeds on 25 and 26 May. Up to now I have not completed any skeds with others [except WA4NJP]. Please inform DL9NDD that I am sorry for my bad system. I have not heard him yet. I will not make skeds with others until I have my preamp back, otherwise I think it is a waste of time for me and others.

DL1YMK

Michael sends a few lines to keep us informed of his 1296 activity -- Although QRP, I was on for the SW on 23 cm. I worked on 23 June ZS6AXT (559/M) for initial #18, G4CCH (559/529), K0YW (559/529), W6HD (559/539) #19, W2UHI (559/439) #20 and PA3CSG (549/O) #21, and on 24 June OZ6OL (449/439), HB9BBD (52/549 on one-way SSB and OZ4MM (559/449). Life is hard with too little power. I again heard many more stations, but CWNR. I am still running only 80 W into a 3.8 m dish. I am also busily building 6 yagis for 70 cm.

DL4KG

Gerald sends his latest news -- I replaced my rotator and I am finally back on EME. It was hard work to get the rotator off the array without dismantling the whole antenna system on the roof of my house. My next step will be to repair my driver PA. At this moment, I am QRV with about 550 W output as a result of only 19 W input from the transceiver into my GS23B. The antenna is still 4 x 29 el DJ9BV yagis.

DJ5MN

Bernhard is ceasing EME operation on 23 cm. July will be his last SW. He is up to initial #99 and DXCC 33 on 1296 and would like to break 100 in July. He hopes to be on 10 GHz by the end of the year.

F6ETI

< A HREF="mailto:f6eti@wanadoo.fr"> Philippe in IN87IQ sends news of his EME activity -- After participating with F1FHI team in the ARRL 1989 contest on 432 MHz, some experience with EME on 144 MHz in 1990, operation with the FO4NK EME team on 432 MHz in 1989 and 1990 and a few months activity on 432 in 1992 with my son, F5SGT, I am now QRV on 1296 MHz. I hope this will be for a long time... My activity began with 4 initials on 28/29 April using the call F8COZ (my mechanical EME system builder) and only 80 W at the feed of a 3.2 m dish. Now I have 250 W at a VE4MA circular feed. My tracking uses VE1ALQ and F1EHN's system. QSOs since 28 April are OE9XXI (F8COZ call), OZ4MM, F2TU (F8COZ call), G4CCH, HB9SV, F1ANH, HB9Q, HB9BBD, ZS6AXT, PA3CSG, G3LTF, IK2MMB, F6CGJ and DJ9YW. My station is operational all the time, and I call mainly on random. My goal is now to build a 10 GHz EME system, but it's a big job. Pictures of my station can be found at:

[Picture Pages.](#)

G3LQR

[Peter](#) reports on his activity -- The 7650 (coax version) in my 432 PA died and the spare seems to like to oscillate! I thus decided to get an 4661 amp going (this tube is similar to 7213) -- luckily the thing is going FB and giving somewhat more power than the old 7650. So I am now active again on 432, but I still need to get some more gain from my 8 yagis and do some work on the RX. A sked with AL7OB went easy earlier in month and during the SW I made a nice random QSO with VK4AFL for 2 new ones. Someone called me later, but could not get the call -- seems the preamp needs some attention or I am getting lots of noise pick up. It was interesting to hear AL7OB coming in on my east window as well as to my west. I did some operating on 23 cm as well and heard a few new ones. It is surprising how much stronger I hear signals on 1296 as compared to 432. I listened to a 3-way SSB QSO between W2UHI, K0YW and HB9BBD. All were Q5 on my little 4.2 m dish. No progress on the 9 cm system. I may have to wait until winter as summer brings other things to do.

K0YW

Bruce worked 18 different stations on 1296 during the June SW and made even more QSOs. He had a 3-way SSB QSO with, HB9BBD and VE6TA. Many other good signals were heard.

K7XQ

< A HREF="mailto:k7xq@juno.com"> Jeff (CM97qi, Atwater, CA) is now QRV on both 432 and 1296 EME -- On 70 cm I am using 2 M2 9 WL yagis and 200 W, on 23 cm I am QRP for now with a 10' dish and only 20 W. The dish has Fiberglas pedals rated to 10 GHz with an f/d of 0.375. I am using a coffee can feed (linear pol). I hear my 1st 1296 EME signals from G4CCH. I recorded them and put them on my Webpage at

[K7QX](#)

He didn't hear me because of my low power. I will be getting a VE4MA feedhorn within the week. I also will be acquiring a dual 2C39 amp within the month as well. I hope to be fully QRV by this coming lunar weekend. My sked with DL9KR on 432 was unsuccessful. I had hoped to hear my 1st 432 EME signals from Jan. On RX, I have SSB Electronics preamps on all bands at the antennas. I have AZ-EL mounts for both bands, but am limited to elevations greater than 30 degs with the dish. I am also no 2 m EME where I use the FFTDSP program and the FT 847.

N7AM

[Jack](#) reports -- You can imagine how elated I am to have the 30' dish on the tower

after a 7 year project. Several years ago it was not clear when this time would arrive. It is a great sight to see the dish on the tower. Now for some 1296 EME testing. The sun noise shows the dish calibration to be almost right on. I am planning on a focal test as soon as we have some railings installed on the platform. I am anxious to hear the 1st signals off the moon. I will be using 75 W into the dish to start. The amp will be on line soon. It will be necessary for me to have some help to get a sked or two and get the hang of tuning in the Doppler. I am looking forward to skeds and help. [Tnx K1RQG for forwarding this info.]

NU7Z

Rick is making progress on his dish upgrades - The new hydraulic drive is working well. I should be back on 5.7 GHz in a few weeks. Progress has been slow as I have had to deal with Dad's failing health. I have been keeping the Microwave EME list updated. Please send any changes to me.

OK1CA

Franta's EME report for the June SW -- I worked at 23 June on 10 GHz W5LUA (O/M) for initial #2 and OK1KIR (O/M) #3. I heard HB9BHU (449), but only CWNR and DL2LAC. The WX was bad with rain and strong wind that made tracking the moon a problem.

ON5OF

Dirk writes that due to family problems he will not be using his QTH near Vence [South of France] in JN33mr at 450 m ASL, and wants to rent it. The house can sleep 8 persons in 4 sleeping rooms, has a fully equipped kitchen with a dishwasher, a pool, radio shack with antennas for VHF, UHF, 23 and 13 cm, 6 m with 5 el beam, and HF KT34A tri-band beam, GAP Voyager vertical for 160/80/40, R7000 Cushcraft vertical, dipole 160/80/40 m, linear TL922 and EME array for 70 cm (8x11 WL BV-opt yagis with open wire feedline and 600 W PA) and more. It is also possible to rent a "studio" apartment for 2 persons with one new double bed, kitchen, bathroom, separate entrance, for a lower fee. Nice and Cannes are only 20 min away. The Nice Airport is 18 min away. Car rental is available from ADA starting from about 100 French francs (US\$15) a day including CDW. Pictures of the QTH and antennas can be seen at <http://www.on5of.com>. If interested please email to Dirk or phone him in Belgium at +32.3.271.08.35 or France +33.4.93.24.12.48. Dirk also has a Create rotor for azimuth and is looking for ideas for tracking programs and interfaces.

PA3CSG

Geert was QRV on 10 GHz in June and worked 3 stations. He also QSO'd SK0CC on 70 cm.

PA3DZL

Jac writes that he has not been very active during the 1st half of the year -- I did

work on 432 using 2 x 21 el 6.6 WL yagis with GS23b PA on 27 May K1FO (339/449) and 29 May PA4FP (O/O) for initial #125 - very nice QSO. I also heard my echoes for the 1st time with my 2 yagis! On 1296 my rig is a 2.5 m dish, VE4MA feed and 2 x 2C39BA PA. I added on 27 May HB9BBD (559/569), HB9Q (529/569) and G4CCH (529/549), and on 24 June HB9BBD (539/559). I had some receive problems on 1296. After several hours of operation my preamp would go bad and gave a very high NF. I have solved this problem last week. The high NF was due to my preamp getting very warm from the coax relay. The relay at the feed gets dc on receive. After several hours of operation (mainly listening) the coil heats up and affects the preamp. I have not seen this problem during the winter, but now in summer with the higher outside temperature, the relay coil makes the preamp go to a very high NF! I plan to change the sequencer to make the relay operate the other way around, i.e., dc on transmit.

SK0CC

Sven in JO99bd reports he is frustrated by lots of spurious -- I just figured out that an S9+60 dB spur on 433.510 may be sideband noise from LDPs. I intend to make some improvements by changing cables in the antenna. I inspected them today and found that altogether there is 32 m of RG217! I plan to buy ECOFLEX-10 or something like it, that will give about a 3 dB improvement! There is one hard problem to overcome for me; the cellular phones/police radio/local FM transmitter (432/4=108MHz) on the community house less than 500 m away! But problems can also inspire! The status for the moment is no echoes of my own, and only 7 dB of SUN NOISE, which is not too good for an 8x17 el yagi array. TX power is 1200 W with a feedline loss of 2.5 dB (90 m of coax).

VE1ALQ

Darrell reports working SK0CC on sked on 70 cm with a good signal.

VK2ALU

Lyle writes that he is still actively interested in 10 GHz EME, but has not conducted an EME test for quite a while because of health problems. Things are starting to improve and Lyle hopes to be more active, but while checking out his 3 cm station he found that the output level of his TWTA drops off rapidly after 1 to 2 minutes from the application of HV. Normal output was about 24 W, but it now falls to 15 W in a minute or two and then rapidly to a very low level. There is no obvious cause. His drive level and supply voltage are constant. G3WDG believe that his tube is at the end of its life. The TWT is a Hughes 783H and is installed in a Hughes model 1277HO3 (TWTA). Lyle is looking for a replacement as he wants to keep VK QRV on 10 GHz. Can anyone help?

W2ETI

Paul, N6TX reports that the SETI League's 1296 EME beacon will be going off

the air in a few days, to be reconfigured for QRO (about 100 W). They expect to be down for a couple of weeks, but should be easily copyable when they return. Watch their WEBSITE at:

[SETI League](#)

for announcements (click on the Moonbounce banner on the main page for updates).

[W7QX](#)

Jerry had problems during his 23 cm WA1JOF sked, but heard Don very well. Later he worked IK2MMB ok. Jerry is working on a solid state PA for 23 cm and is testing a 150 W unit.

[WA1JOF](#)

Don now has 640 W out of his 23 cm PA. During the June SW he worked 2 new ones: IK2MMB on sked and SM3AKW on random. He also QSO'd in the last month K0YW, G4CCH, VE1ALQ, W2UHI and W2/LU6DW, all on random. Don now is up to initial #44. There is a new dish on his drawing board, but he will wait until he moves to a new location before beginning construction.

[ZS6AXT](#)

[Ivo](#) is back in operation - I worked on 23 June on 23 cm F6ETI for initial #170, HB9BBD, SM3AKW, G4CCH, DL1YMK #171, W2UHI, K0YW, G3LTF, VE1ALQ and IK2MMB. CWNR were JA6CZD and WA1JOF. Heard were VE6TA and G3LQR. Signals were occasionally very strong. On 24 June on 23 cm I added OZ4MM, OZ6OL, G3LQR, K2DH, K0YW and HB9BBD. Heard were DL1YMK, G4CCH, IK2MMB, F6CGJ, HB9BCD, W2UHI and SM3AKW. We had quite strong winds on Sunday. Activity was low both days, but still I worked 2 initials.

[K2UYH](#)

I do not have much to report this month. I was in Montreal during SW. Marc, LU6DW tried to put my station on 432, but had problems with heavy rain and heard nothing during my skeds. Because of the bad WX he did not get on 1296. I ran a resked with SK0CC on 70 cm on 25 June and copied him FB (O), but he never heard me. I will be traveling again during the July activity weekend, but am available for skeds on other days. Marc is moving to his own home. He is working on his a 1296 system (10' dish, AH feed and UPX4), but I do not expect him to be QRV before Sept. He will probably operate from my station during the July SW (W2/DL6DW) and cover my skeds (K2UYH). Marc and I will be at the CSVHF Conference the following weekend.

NETNEWS

by

[G4RGK, DAVID DIBLEY](#)

HA5SHF has a new email address .

W2UHI has a new TS-2000 and is learning how to use it.

WB4BKC reports work on his 12' dish is now finished. The feed and cabling only need to be optimized before he can be QRV on 23 cm.

DL9KR will be away on vacation during the July SW.

KA0Y has been spending time on 2 m EME.

K5JL's antennas are still in disarray from recent storms. His dish is damaged and Jay is not currently QRV on EME.

KL7HFQ's elevation drive is not working, but he hopes to be operational again soon.

VE4MA now has his 24 GHz TWTA running at 40 W. Barry should be testing on 24 GHz in a few days.

W5LUA has been working on his 24 GHz preamps. He is getting about a 2 dB NF and trying for less.

VE6TA now has about 400 W out of new PA, but is limited by the power supply.

W4RDI took a bad lightning hit similar to that experienced by W2UHI. Nothing is left working! He will be QRT till further notice.

G4RGK has been QRT since March because of work on his house.

K2DH planned to operate the SW, but when Dave went on the moon his driver power supply failed. He had to replace some diodes. Dave heard a great signal from WA1JOF.

N4PU in TN is now listening on 23 cm. Jim has a 12' dish and a wide band feed with a WB5AGO preamp. He is not yet ready to TX.

VE1ZJ is at his summer cottage in FN95 and planning to set up again for EME

there. He will be on 2 m 1st and then 70 cm.

DK3WG worked SK0CC on 70 cm in June and will be QRV for the July weekend, but will be away in Aug on holiday.

KJ7F has a new e-mail address: [KJ7F's email address](#).

K8UC also have a new address: [K8UC's email address](#).

YO2IS will be away on vacation during the July SW.

WD5AGO will be on 23 cm, but only early QRV on 14 July during the SW.

FOR SALE

W7CNK has **two 5 m dishes available. One is for sale and one is for free. He also has one VK3UM tracking board and 2 VE1ALQ interface boards.**

K2DH still has an 18' dish for sale, including az/el drives and mount. Contact Dave at [K2DH](#)

W7SZ is looking for a Chapparral KU super feed for 11 or 12 GHz. He is also looking for TWT and p/s for 10 GHz.

GM4PLM is looking for a dish that is available in the UK.

K5UGM is still looking for a dish for 23 cm EME. He wants one 5 m or bigger in the TX area.

ON5OF has a Riviera EME vacation home for rent- see Dirk's report.

VK2ALU needs a Hughes 783H TWT - see Lyle's report.

W2UHI is looking for an MGF 1302.

PY5ZBU needs 4 7289's for use on a 1296 EME dxpedition to PY0. (K2AH has already offered to supply the water jackets).

TECHNICAL

I will be talking about stress dishes at the CSVHF Conference. With the availability of TVRO dishes, stress dishes have not received a lot of attention

recently. Although stress dishes have been used in home stations for many years. I think W5LUA has the record with his old 24' stress dish. I am not a strong proponent of stress dishes for permanent installations. The place where stress dishes really shine is for portable and temporary installations. Stress dishes can be made lighter and assembled much more quickly than rigid designs. Although I used a 20' stress dish for portable operation on 70 cm EME for many years (DE twice, WV, KY and the UN - this dish is currently at W2WD's QTH), smaller stress dishes are ideal for 1296 and 2300 operation. A 12' or 15' stress dish can be easily constructed in a weekend from readily available materials. Wood, aluminum or even PVC can be used for the spokes. It must be covered with a conductive mesh. 1" chicken wire will work at 23 cm with a small loss of gain (~.75 dB). Aluminum screening works very well at both 23 and 13 cm. In my portable dishes, I connected the mesh to individual spokes in a "flag like" arrangement. I use an extra crosspiece at the top of the "flags" to set the dish's diameter. The spokes (with attached mesh) are inserted into holes in the center hub, and pulled into place with Dracrone line attached to a center pole that is also used to hold the feed. The crosspieces are bolted together to form the outer rim of the dish. The mesh overlaps the adjacent spoke and is tied in place. Many short lengths of wire are used for this purpose. For a 12' dish, I recommend 12 spokes, and a 15' dish 14. A diagram and pictures of my 20' portable stress are shown at the end of this NL. This design can be scaled for a smaller diameter dish where fewer spokes would be required. FINAL: There are not too many skeds this month. See my comments at the start of this NL. Although it may seem a contradiction, skeds generate radom activity! Talking about skeds and the 20 m net, K1RQG is looking for someone to run the net over the summer, so that he can devote some time to finishing his dish project. Joe is also looking for someone willing to take over the job of Skeds Coordinator. This is a very important job that has been held by a number of different people over the years. The 1st Skeds Coordinator was VE7BBG, who was followed by W4WD. G3WDG, WA6PY (x-SM0PYP) and K4PKV among others that have held this position.

I am embarrassed to say that I am late again in getting this NL out, but there would have been very little to write about had I sent the NL out a week earlier. Frankly, I was not keeping track of the shifts in SW dates. This month because of new moon conditions there is only 3 weeks between SWs. Next month we are back to normal with the SW on the 11/12 Aug.

We need more technical material. The technical mailbox is empty! Please send in your technical ideas. We also need the operating ideas and activity reports. I hope to hear you off the moon soon and see some of you at the CSVHF Conference.

73 for the next 29, Al - K2UYH



****SKEDS****

14 JULY

Time 1296.050 1296.075

| | | |
|-------|--------------|---------------|
| 0830z | | VE1ALQ-DL1YMK |
| 0900z | | F5PAU -DL1YMK |
| 0930z | | K2UYH -DL1YMK |
| 1000z | | WD5AGO-DL1YMK |
| 1030z | WD5AGO-IOUGB | K2DH -DL1YMK |
| 1100z | WD5AGO-VE6NA | VE6TA -DL1YMK |
| 1130z | | W7SZ -DL1YMK |

15 JULY

Time 432.040

| | |
|-------|--------------|
| 1000z | SK0CC -K2UYH |
| 1030z | N1BUG -K2UYH |

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